

- ERG1, a squalene epoxidase gene,
- or
- ii) t-HMG, an HMG-Co-A-reductase gene, and  
ERG9, a squalene synthetase gene,
- or
- iii) t-HMG, an HMG-Co-A-reductase gene, and  
SAT1, an acyl-CoA: sterol-acyl transferase gene,
- or
- iv) t-HMG, an HMG-Co-A-reductase gene, and  
ERG1, a squalene epoxidase gene,
- or
- v) ERG9, a squalene synthetase gene, and  
SAT1, an acyl-CoA: sterol-acyl transferase gene,
- or
- vi) ERG9, a squalene synthetase gene, and  
ERG1, a squalene epoxidase gene,
- or
- vii) SAT1, an acyl-CoA: sterol-acyl transferase gene, and  
ERG1, a squalene epoxidase gene,
- or
- viii) one of the genes selected from the group consisting of ERG9, SAT1 and ERG1,
- b) transforming a microorganism with a plasmid mentioned in i) to vii), or, simultaneously  
or in succession, with two or more of the plasmids mentioned in viii), and
- c) culturing the transformed microorganism under conditions in which it produces  
ergosterol and an intermediate product of ergosterol biosynthesis.

36. (Amended) A yeast strain *S. cerevisiae* AH22 comprising at least one gene selected from the group consisting of t-HMG, an HMG-Co-A-reductase gene, ERG9, a squalene synthetase gene; SAT1, an Acyl-CoA sterol-acyl transferase gene; and ERG1, a squalene epoxidase gene.

37. (Amended) The plasmid YEpH2, which comprises the ADH-promoter, the t-HMG

gene, and the TRP-terminator, as shown in Fig. 1.

38. (Amended) The plasmid YDpUHK3, which comprises the ADH-promoter, the t-HMG gene, the TRP-terminator, the gene for kanamycin resistance and the *ura3* gene, as shown in Fig. 2.

39. (Amended) The plasmid pADL-SAT1, which comprises the SAT1 gene and the LEU2 gene of YEp13, as shown in Fig 3.

42. (Amended) A method for producing an intermediate sterol product with a 5,7-diene structure in the biosynthesis of ergosterol, comprising transforming a microorganism with a plasmid according to claim 37, and culturing the transformed microorganism under conditions in which it produces said intermediate sterol product.

43. (Amended) An expression cassette that comprises a t-HMG gene operatively linked to an ADH-promoter and a TRP-terminator, and an SAT1 gene operatively linked to an ADH-promoter and a TRP-terminator.

44. (Amended) An expression cassette that comprises a t-HMG gene operatively linked to an ADH-promoter and a TRP-terminator, and an SAT1 gene operatively linked to an ADH-promoter and a TRP-terminator, and an ERG9-gene operatively linked to an ADH-promoter and a TRP-terminator.

53. (Amended) A method for producing ergosterol or one or more intermediate products of its biosynthesis, comprising expressing in a microorganism a plasmid which comprises the following genes:

- i) t-HMG, an HMG-Co-A-reductase gene,  
ERG9, a squalene synthetase gene,  
SAT1, an Acyl-CoA: sterol-acyl transferase gene, and  
ERG1, a squalene epoxidase gene,

or

- ii) t-HMG, an HMG-Co-A-reductase gene, and

- ERG9**, a squalene synthetase gene,
- or
- iii) **t-HMG**, an HMG-Co-A-reductase gene, and  
**SAT1**, an acyl-CoA: sterol-acyl transferase gene,
- or
- iv) **t-HMG**, an HMG-Co-A-reductase gene, and  
**ERG1**, a squalene epoxidase gene,
- or
- v) **ERG9**, a squalene synthetase gene, and  
**SAT1**, an acyl-CoA: sterol-acyl transferase gene,
- or
- vi) **ERG9**, a squalene synthetase gene, and  
**ERG1**, a squalene epoxidase gene,
- or
- vii) **SAT1**, an acyl-CoA: sterol-acyl transferase gene, and  
**ERG1**, a squalene epoxidase gene,
- or
- viii) one of the genes selected from the group consisting of **ERG9**, **SAT1** and **ERG1**,  
and isolating the expressed ergosterol or intermediate products of its biosynthesis.